Data Collection Needs for
Population Management Plan Development

The Instruction Memorandum to which this is attached directs Field Offices to collect data on horses/burros in each Herd Management Area (HMA), or combinations of HMA's, as they are gathered beginning Oct. 1, 2001. This information, along with historical data, will be used to prepare Population Management Plans (PMP's) along with supporting (NEPA) documentation within two years of completing a particular gather. The PMP will detail the population objectives for the herd(s) and the rationale for those objectives.

During the next four to five years all HMA's will be gathered and data will be collected on the populations. This data will facilitate preparation of PMP's. If significant interchange exists between HMA's and the populations are relatively homogenous, then a single plan for several HMA's may suffice. HMA's that are geographically separate, contain unrelated animals, or have different objectives, require a separate PMP. The genetic baseline data should be used to make this determination. The following data will be collected during the first gather, beginning October 2001, to assure an adequate data base to prepare a PMP:

1. Blood samples to establish genetic baseline data.
2. Sex and Age
3. Reproduction and Survival
4. Characteristics (Color, size, type)
5. Immuno-contraception data
6. Condition Class
7. Other data

It is recognized that many field offices are already collecting some, or perhaps most of this data. As soon as the data base (WHBIS) is modified to accept this information it should be entered into the system. During the interim the data should be tabulated and stored in the HMA file and used for the development of a PMP.

- Blood Samples

  Blood samples will be collected and analyzed to establish genetic baseline data (genetic diversity, historical origins of the herd, unique markers, plus norms for herd) for each distinct population, (HMA or combination of HMA's). These samples should be collected from release animals by breeding population. Mixing samples from non-interbreeding herds can give misleading estimates of genetic variation. If populations are not known to exchange genetic material, then the samples should be analyzed separately to determine differences/similarities, prior to combining HMA's for the purposes of population management. Sample size requirements are 25 percent of AML with a minimum sample size of 25 and a maximum of 100 for larger herds.

This requirement applies to both wild horses and burros. It is recognized that other types of samples (hair/fecal as an example), may provide some data, but blood samples are far superior in terms of the quality and quantity of data that can be extracted. A sample of DNA will be preserved (frozen) for each horse/burro tested. If adequate sampling (at least 25percent of AML or no less than 25 samples per population nor more than 100) has been accomplished in
the last 10 years, then a totally new sample may not be necessary. Specific sampling and handling techniques are provided as attachment 2.

- Sex ratio/Age Structure

The number of release animals along with their sex and age should be recorded. An estimate of the number, sex, and age of animals that were not gathered, should be determined and recorded. These estimates need to be accomplished using best available data. For burros, where most or all of the managed population may not be gathered, the numbers must be estimated using best available data. It may be prudent to gather most of these populations, on a one time basis, to define population demographics and assess the effects of gate cut gathers. Adjustments to the sex ratio/age structure, to achieve selected management objectives, may be a selected alternative in the PMP. Knowledge of the existing population will be necessary during plan preparation.

- Reproduction and Survival

Information on reproduction and survival should be, and probably has been, routinely collected on most populations. Estimates of survival can be extrapolated from age data. This information is required in the "Population Model" and modeling runs will be necessary to estimate the affect of various management strategies on the population. These data should be routinely collected as they are density and weather dependent.

- Characteristics

Color and size of the animals should be recorded. The type of horse may be noted if it can be determined. Perhaps, a general impression of the type of horse in an HMA is more useful information. The blood analysis will provide a comparison with domestic breeds and other wild populations that have been tested. If objectives in the PMP target phenotype, then these factors need to be identified and supporting rationale presented. If this is not the case, then the method of selecting horses for release will need to be described and rationale presented in the PMP.

Incidence of albinism, parrot mouth, club feet, severely crooked legs or any other negative trait believed to be genetic, should be recorded along with the disposition of that animal. Statements will need to be made regarding the incidence of these traits and managers will need to identify how they propose to deal with these problems.

Immuno-contraception

Immuno-contraception, or the decision to not apply immuno-contraception, will need to be discussed in the PMP . If a herd is having contraception applied during this gather the rationale should have been identified through the NEPA process. Upon the finalization of 4710-Management Considerations- these criteria will need to be identified and explained in a PMP. These decisions (apply or not apply) will require the support of population modeling and sound rationale. If the manager believes there are additional data needed to support these decisions, then the data should be collected.

- Condition Class

Condition class should be recorded using the Henneke System.

- Other data

Managers should collect any other data they believe essential to the Population Management Planning effort. This may include parasite load, disease (from blood samples), percentage of pregnant mares (from blood, fecal samples, or observation), or other data.

Data will be collected on the first gather of an HMA after October 1, 2001. PMP's and supporting NEPA documentation will be required within 2 years of completing a gather. These plans will be separate from gather plans and will be appealable. The rationale for completing these plans two years ahead of the anticipated gather, is to allow time for the appeal process as necessary.